

REMARKS

Reconsideration of the rejections set forth in the Office Action dated 2/17/2006 is respectfully requested under the provisions of 37 CFR §1.111(b).

Applicant would like to thank Examiner Pierre for the telephone conversation of 3/3/06 where the Examiner clarified that the Office Action dated 2/17/2006 was not a final rejection and the holding of Finality has been withdrawn.

Claims 1-17 are pending.

Claims 1-17 stand rejected.

No claims were amended.

This Office Action Reply was electronically filed on 6/19/06. The end of a one month extension falls on a Saturday (6/17/06). Applicant respectfully petitions for a one-month extension. In the alternative, if (for some reason) a two month extension is required -- applicant petitions for a two-month extension.

References to paragraph numbers to the instant application refer to the substitute specification filed with the reply to the office action dated 04/07/05.

I. Reply to Examiner's Response

With regard to Examiner's remarks the Applicant respectfully reasserts and expands on the reasoning provided in the Office Action Reply transmitted with the RCE dated 12/23/2005.

II. Rejections under 35 USC §102(b)

A prima facie case of anticipation is established when the Examiner provides a single reference that teaches or enables each of the claimed elements (arranged as in the claim) expressly or inherently as interpreted by one of ordinary skill in the art.

Applicant respectfully traverses this rejection to the claims as a prima facie case has not been established.

In the Office Action, Claims 1 – 17 were rejected, in paragraph 4, under 35 U.S.C. § 102(b) as being anticipated by US 5,748,805 issued to Withgott et al. (hereafter Withgott). It is respectfully submitted that the Office Action does not state a prima facie case of anticipation. Reconsideration of this rejection is respectfully requested in view of the following remarks.

Anticipation under 35 U.S.C. § 102 requires that each and every claim limitation be disclosed by the applied reference. In the context of court review of a defense to infringement on the grounds that a patent was invalid due to lack of novelty under 35 U.S.C. § 102, the Federal Circuit has said “[t]he identical invention must be shown in as complete detail as is contained in the ... claim,” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989), and “[w]hen the defense of lack of novelty is based on a printed publication that is asserted to describe the same invention, a finding of anticipation requires that the publication describe all of the elements of the claims, arranged as in the patented device,” *C.R. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1349, 48 USPQ2d 1225, 1229-30 (Fed. Cir. 1998). Applying that standard to the subject application, to make a prima facie case of anticipation, the Examiner must show that the Withgott reference describe all of the elements of independent claims 1 and 5, as arranged in those claims.

Discussion of the Withgott reference.

The Withgott disclosure teaches a method and apparatus for applying morphological image criteria that identify image units in an undecoded document image having significant information content, and for retrieving related data that supplements the document either from elsewhere within the document or a source external to the document (Withgott, Abstract.). Withgott teaches inputting a document written in one language, detecting which words in the document a user would like translated responsive to marks placed on the paper, and then translating the marked words for the user.

Anticipation analysis of Claims 1 – 4.

Previously presented claim 1 is directed to a method for generating image data for a document. Claim 1 includes the following elements:

- receiving input text data indicating text of a document in a first human-readable language;
- performing a translation operation using the input text data to produce translation data indicating a second human-readable language translation of the first human-readable language;
- encoding the translation data in a machine-readable code, wherein the machine-readable code is not human-readable when rendered; and
- merging the input text data with the machine-readable code to produce merged image data.

Withgott does disclose that word units 11 (FIG. 3) that have been identified from the scanned document may be decoded (step 52) by optical character recognition techniques. Applicants assume for the sake of discussion herein that these decoded word units may be input text data indicating text of a document in a first human-readable language as required by element 1 of claim 1. Applicants also assume for the sake of discussion herein, that Withgott teaches the translation operation to produce translation data (col. 9, lines 28 – 30, “the supplemental data is translated words 45 corresponding to the words underlined by the user”).

The encoding element of claim 1 is “encoding the translation data in a machine-readable code, wherein the machine-readable code is not human-readable when rendered”.

The Office Action cites, at page 5 that the Withgott reference teaches the encoding element of claim 1 with reference to col. 6, lines 38 – 42:

“and, optionally, other inputted information such as document style, a "reading order" sequence for word images can also be generated. The term "image unit" is thus used herein to denote an identifiable segment of an image such as a number, character, glyph, symbol, word, phrase or other unit that can be reliably extracted.”

asserting, apparently, that encoding may be interpreted to mean a bit map. However, this passage of Withgott is discussing the processes used to identify the word units of the undecoded input document (e.g., scanned image). This passage merely defines the term “image unit”. This passage has nothing to do with “encoding the translation data in a machine-readable code...” as required by claim 1. Further, nothing in the cited text addresses the limitation “wherein the machine-readable code is not human-readable when rendered”. Because Withgott does not teach the encoding element of claim 1, applicant respectfully traverses the 102(b) rejection.

The Examiner may not understand the meaning of “glyph”. A glyph is a graphical unit that provides the appearance or form for a character. A typeface is a coordinated set of glyphs designed with stylistic unity. The term Glyph is well understood by one skilled in the art such as typeface designers and designers of page description languages such as Postscript and Interpress, as well as designers, users, and operators of modern printing equipment. Thus, the term “Glyph” used by Withgott (and by the instant application) means an image. A character is rendered (imaged) by applying the glyph of the character to a substrate. While a glyph can be defined as a bit-map, it can also be define by vectors (such as truetype or postscript glyphs). If a glyph is of a recognizable character (or character combination), the rendered glyph is identifiable by humans and is thus human-identifiable (a human looking at a rendered glyph that represents the letter “A” would be able to say “I recognize that printed shape as being the character ‘A’”). A correctly sequenced stream of glyphs create words that are human-readable. The term Glyph used by Withgott clearly means an image, such as of a character. Applicant’s use of the term Glyph also means an image of a character (for example “/” or “\”). Note that a string of “/” and “\” glyphs are not human readable (they are identifiable by a human as being one or the other) in that while a human will observe a string of `\\//\\//`, a computer will be able to extract data from such a string.

One of the objectives of the technique disclosed in Withgott is to provide an improved method and apparatus for electronic document processing wherein supplemental data is retrieved for association with the electronic document which is

relevant to significant portions of the document selected without decoding the document. It is another object of the invention disclosed in Withgott to provide a method and apparatus of the type described that may be used to provide translations for selected words in a source document. It would be defeating these objectives to encode the supplemental translation data in a machine-readable code, wherein the machine-readable code is not human-readable when rendered. Even in the example of the reading machine for the blind described in Withgott at cols. 9 – 10, the discussion of the output of the supplemental data states “words thus identified as significant words or word units can then be decoded using optical character recognition techniques, for example, for retrieval of supplemental data which permits, for example, Braille versions of the significant words to be printed using a plastic-based ink printer associated with the reading machine.” Clearly, Braille output is human-readable when rendered and so is not the machine readable code required in claim 1.

Thus, Applicant respectfully traverses the assertion that Withgott col. 6, lines 38 – 42 teaches that an “image unit” is encoding the translation data in a machine-readable code as the cited passage has nothing to do with encoding the translation data in a machine-readable code wherein the machine-readable code is not human-readable when rendered. One skilled in the art after reading the specification would understand that machine-readable code that is not human-readable when rendered would include arrays of “/” and “\” glyphs, as well as bar code and other machine-readable techniques. Thus, applicant respectfully traverses this (and similar) assertions in the Office Action.

The merging element of claim 1 is “merging the input text data with the machine-readable code to produce merged image data”. The office action asserts that the merging element of claim 1 is taught by Withgott col. 10, lines 49-55:

“The method of the invention has been described above to perform document retrieval using conventional character recognition techniques, such as OCR, in conjunction with morphological identification techniques. It will be appreciated, however, that direct retrieval using only image characteristic word unit recognition techniques may be performed in the case of supplemental data which is also stored as bit mapped image data compatible with the image data of the source document to be supplemented.”

and col. 9 lines 28-29

“The supplemental data is then retrieved and outputted (step 60) to an appropriate output device. In the embodiment exemplified in FIGS. 3 and 4, for example, the supplemental data is translated words 45 corresponding to the words underlined by the user. In this case, the translated words are outputted by adding them to the document image in a conventional manner so that they appear in the margin adjacent the line containing the words underlined by the user when the document image is printed or displayed, as shown in FIG. 4”

The Withgott Col. 10 cite teaches techniques to specify supplemental data. As an alternative to OCRing the word and locating supplemental information from the OCR'd information in conjunction with morphological identification techniques, Withgott can also match a bitmap image of the scanned image unit (for example, a bitmap of a user-indicated word – any of the underlined words in Withgott fig. 3) with a bitmap (that is compatible with the image data of the source document) of an identifier for the supplemental data without using morphological identification techniques. Thus, if the bitmap image matches the bitmap of an identifier, the respective supplemental data can be directly accessed. However this requires that the bitmap of the image and the identifier be substantially similar such that if the bitmap of the identifier were rendered, the resulting image would be substantially the same as the image of the scanned image unit. Thus, both the image of the bitmap of the identifier and the bitmap image of the scanned image unit, if rendered, are human readable. Because this cite does not teach anything related to merging the machine-readable code to produce merged image data, applicant respectfully traverses the 102(b) rejection.

The Withgott Col. 10 cite teaches that both the supplemental data and the underlined words, when rendered, are human-readable. Because this cite does not teach

anything related to merging the machine-readable code to produce merged image data, applicant respectfully traverses the 102(b) rejection.

Because Withgott does not teach the encoding and merging elements of previously presented **claim 1**, applicant respectfully traverses this 102(b) rejection.

Claims 2-4 depend on and further limit claim 1 that is not anticipated. Thus, previously presented **claims 2-4** are not anticipated.

In addition with respect to claim 2, the Office Action recites the passage at col. 9, lines 25 – 31 and Figure 4 as anticipating claim 2. These cites have already been discussed: the hardcopy document produced by the method of claims 1 and 2 has merged image data that includes the translation data encoded in the machine readable code, wherein the machine-readable code is not human-readable when rendered. Because Withgott Figure 4 clearly shows the translation data (element 45) in human readable form (and referring to the analysis of previously presented claim 1), applicant respectfully traverses this 102(b) rejection of previously presented **Claim 2**.

In addition with respect to claim 3, the term “glyph” is typically used in Withgott, and in typography generally, to refer to a graphic representation of a character in a font; the language in claim 3 is distinguishable from the term “glyph” and refers to a particular type of encoding as shown in Figure 4 of the subject application that uses a string of “/” and “\” glyphs to encode binary machine-readable information that is not human readable. For these reasons, applicant respectfully traverses this 102(b) rejection of previously presented **Claim 3**.

In addition with respect to claim 4, the Office Action interprets the word “over” in claim 4 to mean “adjacent,” and again refers to documents containing supplemental translation data adjacent the source document text, as shown in Withgott Figure 4. If

applicants had intended to use the word “adjacent” in dependent claim 4, they would have. This claim is supported in the specification at, for example, paragraph [0024] which refers to an embodiment in which the glyph shape codes are modulated in an area to form a glyph half tone image as described in the referenced patents. The Withgott reference does not teach the merging step further comprising the step of superimposing the machine-readable code over the input text data. For these reasons, applicant respectfully traverses this rejection of previously presented **Claim 4**.

For the foregoing reasons, it is respectfully submitted that the Office Action does not make a prima facie case of anticipation under 35 U.S.C. § 102(b) with respect to previously presented **claims 1 - 4**. It is respectfully requested that the rejection be withdrawn.

Anticipation analysis of Claims 5 – 13.

Previously presented claim 5 is directed toward method for converting a document from a first language into a second language. Claim 5 includes the following elements:

receiving image data indicating a document, wherein said document, when rendered, comprises human-readable text written in a first language; said image data including language translation data encoded in machine-readable code embedded in said image data such that the language translation data is not human-readable when said document is rendered;

receiving selection data indicating a selected foreign language for translation of said human-readable text written in the first language; and

producing a human-readable translation of said document in said selected foreign language using the language translation data encoded in said machine-readable code

As discussed below, applicant respectfully traverses this rejection as a prima facie case of anticipation has not been established. Thus, Applicant respectfully requests that the rejection be withdrawn.

The Office Action cites, at page 6, that the Withgott reference teaches the first portion of the first element of claim 5 of “receiving image data indicating a document” with reference to Withgott Figure 4. Figure 4 is the output document of the technique disclosed in the Withgott reference; it is not an input document and so it is not received, it is outputted:

“The supplemental data is then retrieved and outputted (step 60) to an appropriate output device. In the embodiment exemplified in FIGS. 3 and 4, for example, the supplemental data is translated words 45 corresponding to the words underlined by the user. In this case, the translated words are outputted by adding them to the document image in a conventional manner so that they appear in the margin adjacent the line containing the words underlined by the user when the document image is printed or displayed, as shown in FIG. 4.” (col. 9, lines 25 – 34.)

The Office Action further cites that Withgott teaches “at least one foreign language translation of said human-readable text encoded in machine-readable code”. The actual limitation from previously presented claim 5 is “said image data including language translation data encoded in machine-readable code embedded in said image data such that the language translation data is not human-readable when said document is rendered”. As has been previously discussed, Withgott Figure 4 does not teach machine-readable code or the other limitations in this portion of claim 5. The Office Action references the term “glyph” but it is respectfully pointed out that claim 5 does not contain the term “glyph.” Claim 5 requires that said image data indicating a document include language translation data encoded in machine-readable code embedded in said image data such that the language translation data is not human-readable when said document is rendered. As already discussed extensively above, Figure 4 clearly shows the human-readable language translation (supplemental) data (45) rendered on the output document of Figure 4, adjacent to the original input text (7). Figure 4 cannot therefore teach element 1 of claim 5.

Applicant believes that the interpretation given to the scope of the claim 5 is far beyond any reasonable construction of the claims in light of the specification as it would be interpreted by one of ordinary skill in the art. In particular the convoluted reasoning

provided for asserting that the glyph (a term not used in previously presented claim 5) is machine readable.

As noted in the above discussion of the Withgott reference, the input document to the technique disclosed in Withgott is an undecoded image document, such as the document illustrated in Figure 3. However, while Figure 3 may illustrate the first portion of the first element of claim 5 (receiving image data indicating a document, wherein said document, when rendered, comprises human-readable text written in a first language), neither Figure 3 nor any other part of the Withgott disclosure teaches the second portion of the first claim element of claim 5 which requires that said image data including language translation data encoded in machine-readable code embedded in said image data such that the language translation data is not human-readable when said document is rendered.

The Office Action cites that the Withgott reference teaches the receiving selection data element of claim 5 at col. 3, lines 52 – 54 and col. 9, lines 44 – 46, and again cites Withgott figure 4. Claim 5 includes the limitation of “receiving selection data indicating a selected foreign language for translation of said human-readable text written in the first language”. The cite at col. 3, lines 52 – 54:

“The retrieval method may be used to retrieve, for example, foreign language translation data corresponding to the selected image units, or Braille versions of the selected image units for print out. The supplemental data may also take the form of a different mode of display, such as speech synthesized verbal output of the selected image units.”

refers to foreign language translation data corresponding to selected image units (that is, which words the user wants to have translated), not to a selected foreign language. The passage at col. 9, lines 44 – 46:

“the user may either mark difficult or unknown words in a printed copy of the document or portion thereof for translation supplementation, or enter through an appropriate user interface a request that all significant words in the document or document portion be automatically selected in accordance with either predetermined or user-selected significance criteria.”

refers to a user entering through an appropriate user interface a request that all significant words in the document or document portion be automatically selected in accordance with either predetermined or user-selected significance criteria. Again, this passage refers to words and not to a selection of a foreign language, as required by claim 5. It is respectfully submitted that the Office Action fails to show where Withgott teaches receiving selection data indicating a selected foreign language for translation of said human-readable text written in the first language.

The third element of claim 5 states the limitation of “producing a human-readable translation of said document in said selected foreign language using the language translation data encoded in said machine-readable code”. Applicant again rebuts the asserted teachings of cites col. 3, lines 52 – 54 and col. 9, lines 44 – 46 as these do not teach a selected foreign language.

The Office Action asserts that the phrase “using the language translation data encoded in said machine-readable code” is taught in Withgott at col. 9, lines 28 – 32 and col. 10, lines 50 – 55, with reference again to the machine readable code being taught by a bit map of a glyph. The Withgott Col. 10 cite teaches techniques to specify supplemental data. As an alternative to OCRing the word and locating supplemental information from the OCRed information in conjunction with morphological identification techniques, Withgott can also match a bitmap image of the scanned image unit (for example, a bitmap of a user-indicated word – any of the underlined words in Withgott fig. 3) with a bitmap (that is compatible with the image data of the source document) of an identifier for the supplemental data without using morphological identification techniques. Thus, if the bitmap image matches the bitmap of an identifier, the respective supplemental data can be directly accessed. However this requires that the bitmap of the image and the identifier be substantially similar such that if the bitmap of the identifier were rendered, the resulting image would be substantially the same as the image of the scanned image unit. Thus, both the image of the bitmap of the identifier and the bitmap image of the scanned image unit, if rendered, are human readable. Because these citations do not teach anything related to selecting a foreign language or related to

language translation data encoded in said machine-readable code, applicant respectfully traverses the 102(b) rejection to previously presented **Claim 5**.

Applicant believes that the interpretation given to the scope of the claim 5 is far beyond any reasonable construction of the claims in light of the specification as it would be interpreted by one of ordinary skill in the art. In particular the convoluted reasoning provided for asserting that the glyph (a term not used in previously presented claim 5) is machine readable.

Previously presented claims 6-13 depend on (directly or through intervening claims) and further limit claim 5 that not anticipated. Thus **Claims 6-13** are not anticipated.

In addition, with respect to claim 6, the term “glyph” is typically used in Withgott, and in typography generally, to refer to a character symbol in a font; the language in claim 6 is distinguishable from the term “glyph” and refers to a particular type of encoding as shown in Figure 4 of the subject application. For the reasons previously presented when analyzing these cites, applicant respectfully traverses this 102(b) rejection as to previously presented **Claim 6**.

In addition, with respect to claim 8. The office action asserts that Withgott col. 10, lines 46-54 teach OCR. Nothing in that cite teaches using an assist channel to perform OCR. This passage merely mentions that OCR may be used in conjunction with morphological identification techniques. No mention is made of using an assist channel that assists in the identification of failures of the OCR operation.

Applicant points out that an assist channel, such as disclosed in application 09/574,268 that was incorporated by reference, helps the OCR perform an exact match of the scanned input. Thus, with an assist channel, misspelled words on the original document will be faithfully reproduced. This is accomplished by providing data in the assist channel that helps detect differences between the original document and the result of the OCR processing of a scanned image of the document. Thus, applicant respectfully

traverses this assertion in the Office Action. For these reasons, applicant respectfully traverses the 102(b) rejection of previously presented **Claim 8**.

In addition, with respect to claims 9 and 10, Withgott does not disclose the limitations in these claims for the same reasons set forth above with respect to claim 5, first and second elements. In addition, none of the recited passages teaches the identifying and decoding steps of claim 9. In particular, if the “machine readable code” of claims 5 and 9 were interpreted to mean a bit map image, then no decoding would be necessary: the bit map image is ready for rendering and display. A decoding operation such as that set forth in claim 9 is needed when the language translation data is a machine-readable code embedded in the image data, as set forth in claim 5. Thus, applicant respectfully traverses the 102(b) rejection of previously presented **Claims 9 and 10**.

In addition, with respect to claim 11: (applicant assumes the Office Action intended to cite Figure 4 element 45 when citing Figure 4, element 47 because there is no element 47) as discussed above, Withgott does not teach machine-readable code, language translation data encoded in the machine-readable code, a complete human-readable translation human-readable text in a compressed form, or performing a decompression operation. Thus, applicant respectfully traverses this 102(b) rejection of previously presented **Claim 11**.

In addition, with respect to claims 12 and 13: The subject matter of these claims can be found at least in paragraph [0025]. As discussed above, Withgott does not teach machine-readable code, does not teach editing operations embedded in the machine-readable code, and does not teach correction codes indicating correct word usage. Nor does Withgott teach performing the plurality of editing operations on the first translation

to produce the human-readable translation of said document in said selected foreign language.

In accordance with 37 CFR 1.104(d)(2), Applicant respectfully calls on the Examiner to provide an affidavit supporting the assertion that editing is inherent in OCR operations where the editing operations are contained in the machine-readable code and applied to a translation of the human readable text.

Thus, applicant respectfully traverses this 102(b) rejection of previously presented **Claims 12 and 13**.

For the foregoing reasons, it is respectfully submitted that the Office Action does not make a prima facie case of anticipation under 35 U.S.C. § 102(b) with respect to **Claims 5 - 13**. It is respectfully requested that the rejection be withdrawn.

Anticipation analysis of Claims 14 – 17.

Claim 14 is directed to a method for generating image data for an output document. It has the following limitations:

- receiving input text data indicating text of a document in a first human-readable language;

- for each one of a plurality of output foreign languages, performing a language translation operation using the input text data to produce a set of language translation data; each set of language translation data indicating sufficient information for a compatible document image decoder to produce a translation of the first human-readable language into a second human-readable language;

- encoding each set of the language translation data in a machine-readable code segment, wherein the machine-readable code segment is not human-readable when rendered as image data in the output document;

- producing primary channel image data representing the input text data in the first human-readable language; the primary channel image data presenting the input text data as human-readable text when rendered as image data in the output document; and

- merging the primary channel image data with the plurality of machine-readable code segments to produce merged document image data.

With regards to the Withgott Fig. 4 cite, applicant believes that for receiving input text that the Examiner intends to reference Fig. 3 instead of Fig. 4 because Figure. 4 is output resulting from application of Withgott to the input provided by Fig. 3.

As previously discussed, Withgott does not teach machine-readable code that is not human-readable when rendered as an output document, or of merging the primary channel image data (such as the input text) with the machine readable code segments. Thus, applicant respectfully traverses this 102(b) rejection of previously presented **Claims 14**.

Claims 15-17 depend on and further limit claim 14 that is not anticipated. Thus, previously presented **Claims 15 – 17** are not anticipated.

In addition, with respect to claim 15: Nothing in Withgott teaches a complete translation. Nothing in Withgott teaches a compressed version of the complete translation. Thus, applicant respectfully traverses this 102(b) rejection of previously presented **Claim 15**.

In accordance with 37 CFR 1.104(d)(2), Applicant respectfully calls on the Examiner to provide an affidavit supporting the assertion that a bit map is a compressed version of the machine-readable code which is merged into image data in light of the claims as they would be read by one skilled in the art in light of the instant specification.

In addition, with respect to claims 16, The subject matter of these claims can be found at least in paragraph [0025]. As discussed above, Withgott does not teach machine-readable code, does not teach editing data embedded in the machine-readable code for use with post translation editing operations. Thus, applicant respectfully traverses this 102(b) rejection of previously presented **Claim 16**.

For the foregoing reasons, it is respectfully submitted that the Office Action does not make a prima facie case of anticipation under 35 U.S.C. § 102(b) with respect to **Claims 1 - 17**. It is respectfully requested that the rejection be withdrawn.

Since all rejections, objections and requirements contained in the outstanding official action have been fully answered or traversed and shown to be inapplicable to the present claims, it is respectfully submitted that reconsideration is now in order under the provisions of 37 CFR §1.111(b) and such reconsideration is respectfully requested. Upon reconsideration, it is also respectfully submitted that this application is in condition for allowance and such action is therefore respectfully requested.

The undersigned Xerox Corporation attorney hereby authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation Deposit Account No. 24-0025. This also constitutes a request for any needed extension of time and authorization to charge all fees therefor to Xerox Corporation Deposit Account No. 24-0025.

Should any additional issues remain, or if I can be of any additional assistance, please do not hesitate to contact me at (650) 812-4259.

Respectfully submitted,

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